

11965ROUS01U

ABSTRACT

An optical intensity control system for use with an optical switch providing individual signal paths between input and output ports. The system has optical splitters connectable to output multiplexers of the switch and also has variable optical intensity controllers (VOICs) for insertion into the individual signal paths. The VOICs individually control the intensity of optical signals present in the signal paths in accordance with intensity control signals. An equalizer is connected to the splitters and to the VOICs, for producing an estimate of the optical power of each individual switched optical signal and generating the intensity control signals. The equalizer is adapted to controllably isolate individual switched optical signals. In this way, individual and independent control of the power on each optical channel is provided, wavelength-dependent losses introduced by all the devices in the switch including the WDM devices at the output of the switch are accounted for and one optical coupler is required for each output optical fiber. Coarse equalization may be provided for each multiplexed optical signal either at the switch input or output, permitting a reduction in the dynamic range over which the VOICs inside the switch are required to operate.

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